

Chemical Analysis Report

NW-DIST-2020-12-17-02

Florida Department of Environmental Protection
Central Laboratory
2600 Blair Stone Road
Tallahassee, FL 32399-2400
DOH Accreditation E31780

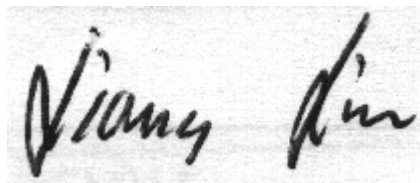
Event Description: **Alaqua Run**
Request ID: **RQ-2020-12-14-17**
Customer: **NW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
160 Government Center
Suite 208
Pensacola, FL 32502-5794
Attn: Cheryl Bunch

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Certified by: Liang Lin, Environmental Administrator

Date Certified: 08-JAN-2021 14:23

A handwritten signature in black ink, appearing to read "Liang Lin", on a light-colored background.

Case Narrative

Unless otherwise noted, all samples included in this report were received in accordance with protocols referenced in Chapter 62-160, Florida Administrative Code (F.A.C.). Results published in this report pertain only to the samples as submitted to, and received by the laboratory. All times in this report are adjusted to the applicable Eastern Time Zone (EST or EDT).

Results for the following analytical groups are included in this report: Nutrients and Pesticides.

Scientific notation may be used in reporting very large or small values. Values reported using scientific notation will take the form of the following example: 1.3E+03, which is equivalent to 1.3×10^3 or 1300.

Unless otherwise noted, analytical values for soil and sediment samples are reported on a dry weight basis, and analytical values for waste and tissue samples are reported on a wet weight basis.

Results for TNI accredited tests met requirements established by The NELAC Institute. A double asterisk (**) is used to indicate an analyte/matrix/method for which the laboratory is not TNI accredited by the Florida Department of Health Environmental Laboratory Certification Program or where accreditation for that field of testing is not applicable.

Any significant anomalies or deviations from established protocols are documented in Non-Conformance Reports, which, where appropriate, are included within this analytical report. Additional comments related to specific analytical tests may be included as remarks following the analytical results for each sample. Such comments and remarks are for informational purposes only and are not intended to convey judgement about the usability of the reported data.

A quality control report on the performance of the test method for the submitted samples is included. Uncertainty associated with the analytical results contained in this report can be estimated from the reported quality assurance results and from published quality control acceptance limits for each analytical test. Matrix quality control results (matrix spike recoveries and matrix sample precision) pertain only to the matrix sample tested and do not necessarily reflect test method performance for other samples.

Typical matrix quality control (QC) measurements may include matrix spike recovery, matrix spike duplicate recovery, matrix spike precision and matrix sample precision. Not all matrix QC results may be available or reportable; where they are not an explanation is provided. Typical reasons for unavailable QC results include, but are not limited to, a) insufficient matrix sample to perform some or all QC measurements; b) analyte concentration in the sample replicated was too low for a meaningful measurement of precision and c) analyte concentration in the matrix sample spiked was too high (relative to the amount of analyte spiked) for a meaningful measurement of recovery. Where matrix QC results are unavailable, other method performance metrics (e.g., LCS recovery, LCS precision, surrogate recovery) may be used to assess performance of the method. Comments explaining any missing QC measurements are not intended to convey any adverse conclusions about the quality of the reported data.

Precision is reported as relative percent difference unless otherwise noted.

Quality Control codes as defined below may be used in this report to indicate results that are associated with one or more quality control elements which did not fall within established test method criteria. Such results may be qualified as estimates using a J qualifier as required by 62-160 F.A.C. Explanations are included in the report for any results that were reported as estimates for other reasons.

QC Codes used in this report may include:

- LCS – Recovery for the batch Laboratory Control Sample (LCS) was outside existing control limits;
- MS – Recovery for the batch matrix spike (MS) was outside existing control limits;
- CCV – Recovery for a continuing calibration verification (CCV) standard was outside existing control limits;
- SUR – Recovery of a surrogate (SUR) for associated analytes was outside existing control limits;
- RPD – The precision, measured as relative percent difference (RPD), of batch replicate measurements was outside existing control limits;
- RSD – The precision, measured as relative standard deviation (RSD), of batch replicate measurements was outside existing control limits;
- SMP – Sample - used precision derived from replicate analyses of a sample;

The following data qualifiers are used, where applicable, in this report as specified in 62-160 F.A.C.

- A - Value reported is the mean of two or more determinations.
- B - Results based on colony counts outside the acceptable range.
- I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- J - Estimated value and/or the analysis did not meet established quality control criteria.
- K - Actual value is known to be less than value given.
- L - Actual value is known to be greater than value given.
- N - Presumptive evidence of presence of material.
- O - Sampled, but analysis lost or not performed.
- Q - Sample held beyond normal holding time.
- T - Value reported is less than the criterion of detection.
- U - Material was analyzed for but not detected. The reported value is the method detection limit for the sample analyzed.
- V - Analyte was detected in both sample and method blank.
- X - Too few individuals to calculate SCI value.
- Y - The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate.
- Z - Colonies were too numerous to count (TNTC).

Quality control information from overflow laboratories may not be included in this report. Please refer to the associated report from the overflow laboratory for additional information.

Sample Location: Mouth Of Mullet Creek @ Hwy 20

Collection Date/Time: 12/16/2020 10:13

Field ID: G3NW0137

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2214261	EPA 180.1 Rev. 2.0	Turbidity	3.2		NTU	P391377	
	EPA 300.0 Rev. 2.1	Bromide	0.014	I	mg Br/L	P391507	
	SM 2320 B-2011	Total Alkalinity	3.0		mg CaCO3/L	P391499	
	SM 2540 D-2011	TSS	7	I	mg/L	P391768	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P391500	
2214262	EPA 350.1 Rev. 2.0	Ammonia-N	0.016		mg N/L	P391734	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.18	I	mg N/L	P391709	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.056		mg N/L	P391512	
	EPA 365.1 Rev. 2.0	Total-P	0.024		mg P/L	P391517	
	SM 5310 B-2011	Organic Carbon	2.4		mg C/L	P391597	
2214263	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.010		mg P/L	P391372	
2214275	EPA 8321B	2,4-D	0.0020	U	ug/L	P391404	
		Acesulfame K**	0.10	U	ug/L	P391365	
		AMPA**	0.10	U	ug/L	P391365	
		Sucralose**	0.041		ug/L	P391365	
		Acetaminophen**	0.0080	U	ug/L	P391404	
		Acetamiprid**	0.0020	U	ug/L	P391404	
		Endothall**	0.25	U	ug/L	P391365	
		Glufosinate**	0.10	U	ug/L	P391365	
		Glyphosate**	0.10	U	ug/L	P391365	MS
		Afidopyropen**	0.0020	U	ug/L	P391404	
		Bentazon	8.0E-04	U	ug/L	P391404	
		Benzovindiflupyr**	0.0020	U	ug/L	P391404	
		Carbamazepine**	8.0E-04	U	ug/L	P391404	
		Clothianidin**	0.0020	U	ug/L	P391404	
		Dinotefuran**	0.0020	U	ug/L	P391404	
		Diuron	0.0020	U	ug/L	P391404	
		Fenuron	0.016	U	ug/L	P391404	
		Fluridone**	8.0E-04	U	ug/L	P391404	
		Imazapyr**	0.0040	U	ug/L	P391404	
		Hydrocodone**	0.0020	U	ug/L	P391404	
		Ibuprofen**	0.020	U	ug/L	P391404	
		Imidacloprid	0.0020	U	ug/L	P391404	
		Linuron	0.0040	U	ug/L	P391404	
		Mandestrobin**	0.0020	U	ug/L	P391404	
		MCP	0.0020	U	ug/L	P391404	
		Naproxen**	0.0080	U	ug/L	P391404	
		Primidone**	0.0040	U	ug/L	P391404	
		Pyraclostrobin**	0.0020	U	ug/L	P391404	
		Thiamethoxam**	0.0020	U	ug/L	P391404	
		Tolfenpyrad**	0.0020	U	ug/L	P391404	
		Triclopyr**	0.0040	U	ug/L	P391404	

Field ID: G3NW0137

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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Ref. Method and Comment:
SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 8321B: MS accuracy for some analytes could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: Alaqua Creek Below Portland Park

Collection Date/Time: 12/16/2020 11:30

Field ID: G3NW0443

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2214255	EPA 180.1 Rev. 2.0	Turbidity	2.2		NTU	P391377	
	EPA 300.0 Rev. 2.1	Bromide	4.8		mg Br/L	P391507	
	SM 2320 B-2011	Total Alkalinity	11		mg CaCO3/L	P391499	
	SM 2540 D-2011	TSS	3	I	mg/L	P391768	
	SM 4500 F-C-2011	Fluoride	0.093	I	mg F/L	P391500	
2214257	EPA 350.1 Rev. 2.0	Ammonia-N	0.018		mg N/L	P391734	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.17	I	mg N/L	P391709	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.034		mg N/L	P391512	
	EPA 365.1 Rev. 2.0	Total-P	0.007		mg P/L	P391532	
	SM 5310 B-2011	Organic Carbon	2.7		mg C/L	P391597	
2214259	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P391372	

Ref. Method and Comment:

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: Alaqua Bayou

Collection Date/Time: 12/16/2020 12:00

Field ID: G3NW0209

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2214256	EPA 180.1 Rev. 2.0	Turbidity	2.0		NTU	P391377	
	EPA 300.0 Rev. 2.1	Bromide	31		mg Br/L	P391507	
	SM 2320 B-2011	Total Alkalinity	59		mg CaCO3/L	P391745	
	SM 2540 D-2011	TSS	3	IA	mg/L	P391769	
	SM 4500 F-C-2011	Fluoride	0.48		mg F/L	P391500	
2214258	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P391563	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.25	I	mg N/L	P391712	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.014		mg N/L	P391401	
	EPA 365.1 Rev. 2.0	Total-P	0.014		mg P/L	P391531	
	SM 5310 B-2011	Organic Carbon	2.9		mg C/L	P391751	
2214260	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P391374	

Ref. Method and Comment:

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P391377

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P391507

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P391563

Component	Result	Code	Units
Ammonia-N	0.002	U	mg N/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P391734

Component	Result	Code	Units
Ammonia-N	0.002	U	mg N/L

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P391709

Component	Result	Code	Units
Kjeldahl Nitrogen	0.080	U	mg N/L

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P391712

Component	Result	Code	Units
Kjeldahl Nitrogen	0.080	U	mg N/L

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P391401

Component	Result	Code	Units
NO2NO3-N	0.004	U	mg N/L

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P391512

Component	Result	Code	Units
NO2NO3-N	0.004	U	mg N/L

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P391517

Component	Result	Code	Units
Total-P	0.002	U	mg P/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P391531

Component	Result	Code	Units
Total-P	0.002	U	mg P/L

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P391532

Component	Result	Code	Units
Total-P	0.002	U	mg P/L

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P391372

Component	Result	Code	Units
O-Phosphate-P	0.004	U	mg P/L

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P391374

Component	Result	Code	Units
O-Phosphate-P	0.004	U	mg P/L

Reference Method: EPA 8321B
Batch ID: P391365

Component	Result	Code	Units
Acesulfame K	0.10	U	ug/L
AMPA	0.10	U	ug/L
Endothall	0.25	U	ug/L
Glufosinate	0.10	U	ug/L
Glyphosate	0.10	U	ug/L
Sucralose	0.010	U	ug/L

Reference Method: EPA 8321B
Batch ID: P391404

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
Acetaminophen	0.0080	U	ug/L
Acetamiprid	0.0020	U	ug/L
Afidopyropen	0.0020	U	ug/L
Bentazon	8.0E-04	U	ug/L
Benzovindiflupyr	0.0020	U	ug/L
Carbamazepine	8.0E-04	U	ug/L
Clothianidin	0.0020	U	ug/L
Dinotefuran	0.0020	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.016	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	0.0020	U	ug/L
Ibuprofen	0.020	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P391404

Component	Result	Code	Units
Mandestrobin	0.0020	U	ug/L
MCP	0.0020	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Thiamethoxam	0.0020	U	ug/L
Tolfenpyrad	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: SM 2320 B-2011
Batch ID: P391499

Component	Result	Code	Units
Total Alkalinity	0.65	U	mg CaCO ₃ /L

Reference Method: SM 2320 B-2011
Batch ID: P391745

Component	Result	Code	Units
Total Alkalinity	0.65	U	mg CaCO ₃ /L

Reference Method: SM 2540 D-2011
Batch ID: P391768

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P391769

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P391500

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P391597

Component	Result	Code	Units
Organic Carbon	0.50	U	mg C/L

Reference Method: SM 5310 B-2011
Batch ID: P391751

Component	Result	Code	Units
Organic Carbon	0.50	U	mg C/L

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P391507

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Bromide	98.7		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P391563

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	99.6		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P391734

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	99.2		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P391709

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	98.4		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P391712

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	99.1		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P391401

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	102		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P391512

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	99.0		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P391517

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	103		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P391531

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	102		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P391532

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	102		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P391372

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	97.7		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P391374

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	99.3		P	90 - 110

Reference Method: EPA 8321B
Batch ID: P391365

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	103		P	40 - 150
AMPA	111		P	40 - 150
Endothall	107		P	40 - 150
Glufosinate	92.3		P	40 - 150
Glyphosate	97.0		P	40 - 140
Sucralose	105		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P391404

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	81.4		P	30 - 160
Acetaminophen	70.0		P	30 - 150
Acetamiprid	78.5		P	30 - 160
Afidopyropen	44.7		P	30 - 160
Bentazon	39.2		P	30 - 150
Benzovindiflupyr	68.5		P	30 - 160
Carbamazepine	78.0		P	30 - 160
Clothianidin	85.6		P	30 - 160
Dinotefuran	78.3		P	30 - 160
Diuron	64.8		P	30 - 160
Fenuron	90.8		P	30 - 160
Fluridone	72.5		P	30 - 160
Hydrocodone	84.7		P	30 - 160
Ibuprofen	54.2		P	30 - 160
Imazapyr	76.0		P	30 - 160
Imidacloprid	89.5		P	30 - 160
Linuron	56.5		P	30 - 160
Mandestrobin	69.7		P	30 - 160
MCPP	81.0		P	30 - 160
Naproxen	43.7		P	30 - 160
Primidone	78.6		P	30 - 160
Pyraclostrobin	70.0		P	30 - 160
Thiamethoxam	88.2		P	30 - 160

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P391404

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Tolfenpyrad	43.9		P	30 - 160
Triclopyr	71.7		P	30 - 160

Reference Method: SM 2320 B-2011
Batch ID: P391499

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	104		P	93 - 104

Reference Method: SM 2320 B-2011
Batch ID: P391745

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	97.2		P	93 - 104

Reference Method: SM 4500 F-C-2011
Batch ID: P391500

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.3		P	90 - 106

Reference Method: SM 5310 B-2011
Batch ID: P391597

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.2		P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P391751

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	103		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P391507

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2214222	Bromide	98.7	98.3	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P391563

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2214258	Ammonia-N	97.6	101	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P391734

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2214323	Ammonia-N	95.2	98.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P391709

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2214243	Kjeldahl Nitrogen	94.6	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P391712

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2214297	Kjeldahl Nitrogen	99.2	104	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P391401

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2214258	NO2NO3-N	101	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P391512

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2214262	NO2NO3-N	99.0	99.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P391517

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2214262	Total-P	103	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P391531

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2213954	Total-P	101	103	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P391532

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2214257	Total-P	100	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P391372

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2214244	O-Phosphate-P	100	99.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P391374

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2214260	O-Phosphate-P	101	102	P/P	90 - 110

Reference Method: EPA 8321B
 Batch ID: P391365

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2214252	Acesulfame K	114	126	P/P	40 - 150
2214252	AMPA	126	132	P/P	40 - 150
2214252	Endothall	114	122	P/P	40 - 150
2214252	Glufosinate	90.6	97.0	P/P	40 - 150
2214252	Glyphosate	149	144	F/F	40 - 140
2214252	Sucralose	104	99.5	P/P	40 - 150

Reference Method: EPA 8321B
 Batch ID: P391404

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2214862	Acetaminophen	64.6	72.4	P/P	30 - 150
2214862	Acetamiprid	86.3	89.0	P/P	30 - 160
2214862	Afidopyropen	66.3	70.8	P/P	30 - 160
2214862	Benzovindiflupyr	74.0	76.6	P/P	30 - 160
2214862	Carbamazepine	69.1	74.8	P/P	30 - 160
2214862	Clothianidin	68.4	71.5	P/P	30 - 160
2214862	Dinotefuran	70.4	75.6	P/P	30 - 160
2214862	Diuron	51.3	52.2	P/P	30 - 160
2214862	Fenuron	63.5	64.0	P/P	30 - 160
2214862	Hydrocodone	66.0	67.8	P/P	30 - 160
2214862	Ibuprofen	52.4	46.0	P/P	30 - 160
2214862	Imazapyr	99.7	97.5	P/P	30 - 160
2214862	Imidacloprid	117	122	P/P	30 - 160
2214862	Linuron	53.3	58.4	P/P	30 - 160
2214862	Mandestrobin	69.9	78.7	P/P	30 - 160
2214862	MCP	68.9	65.2	P/P	30 - 160
2214862	Naproxen	45.5	57.0	P/P	30 - 160
2214862	Primidone	66.9	67.2	P/P	30 - 160
2214862	Pyraclostrobin	75.4	82.9	P/P	30 - 160
2214862	Thiamethoxam	88.0	89.8	P/P	30 - 160
2214862	Tolfenpyrad	44.9	47.9	P/P	30 - 160
2214862	Triclopyr	68.9	67.5	P/P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 4500 F-C-2011
Batch ID: P391500

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2214498	Fluoride	96.7	97.2	P/P	94 - 107

Reference Method: SM 5310 B-2011
Batch ID: P391597

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2214344	Organic Carbon	96.8	101	P/P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P391751

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2215526	Organic Carbon	100	100	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P391377

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2214381	Turbidity	2.12	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P391507

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2214222	Bromide	0.409	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P391563

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2214258	Ammonia-N	3.15	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P391734

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2214323	Ammonia-N	2.27	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P391709

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2214243	Kjeldahl Nitrogen	3.77	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P391712

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2214297	Kjeldahl Nitrogen	2.68	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P391401

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2214258	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P391512

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2214262	NO2NO3-N	0.393	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P391517

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2214262	Total-P	1.76	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P391531

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2213954	Total-P	2.40	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P391532

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2214257	Total-P	1.43	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P391372

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2214244	O-Phosphate-P	0.443	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P391374

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2214260	O-Phosphate-P	1.08	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P391365

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2214252	Acesulfame K	9.58	Spike	P	0 - 30
2214252	AMPA	4.62	Spike	P	0 - 30
2214252	Endothall	6.37	Spike	P	0 - 30
2214252	Glufosinate	6.86	Spike	P	0 - 30
2214252	Glyphosate	2.89	Spike	P	0 - 30
2214252	Sucralose	4.03	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P391404

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2214862	2,4-D	0.511	Spike	P	0 - 30
2214862	Acetaminophen	11.5	Spike	P	0 - 30
2214862	Acetamiprid	3.09	Spike	P	0 - 30
2214862	Afidopyropen	6.70	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P391404

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2214862	Bentazon	2.10	Spike	P	0 - 30
2214862	Benzovindiflupyr	3.52	Spike	P	0 - 30
2214862	Carbamazepine	7.84	Spike	P	0 - 30
2214862	Clothianidin	4.46	Spike	P	0 - 30
2214862	Dinotefuran	7.05	Spike	P	0 - 30
2214862	Diuron	1.77	Spike	P	0 - 30
2214862	Fenuron	0.698	Spike	P	0 - 30
2214862	Fluridone	8.85	Spike	P	0 - 30
2214862	Hydrocodone	2.68	Spike	P	0 - 30
2214862	Ibuprofen	13.0	Spike	P	0 - 30
2214862	Imazapyr	1.52	Spike	P	0 - 30
2214862	Imidacloprid	4.07	Spike	P	0 - 30
2214862	Linuron	9.02	Spike	P	0 - 30
2214862	Mandestrobin	11.9	Spike	P	0 - 30
2214862	MCPP	5.46	Spike	P	0 - 30
2214862	Naproxen	22.4	Spike	P	0 - 30
2214862	Primidone	0.433	Spike	P	0 - 30
2214862	Pyraclostrobin	9.57	Spike	P	0 - 30
2214862	Thiamethoxam	2.05	Spike	P	0 - 30
2214862	Tolfenpyrad	6.35	Spike	P	0 - 30
2214862	Triclopyr	2.05	Spike	P	0 - 30

Reference Method: SM 2320 B-2011
Batch ID: P391499

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2214498	Total Alkalinity	4.83	Sample	P	0 - 8.1

Reference Method: SM 2320 B-2011
Batch ID: P391745

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2215319	Total Alkalinity	1.16	Sample	P	0 - 8.1

Reference Method: SM 4500 F-C-2011
Batch ID: P391500

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2214498	Fluoride	0.474	Spike	P	0 - 2.8

Reference Method: SM 5310 B-2011
Batch ID: P391597

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2214344	Organic Carbon	2.43	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 5310 B-2011
Batch ID: P391751

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2215526	Organic Carbon	0.444	Spike	P	0 - 20

* Sample, spike and/or laboratory control sample precision (LCS) is reported.

Quality Assurance Report Surrogates

Lab Sample ID: 2214275
Field Sample ID: G3NW0137

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	72.8	P	30 - 160
EPA 8321B	Acetaminophen-d4	80.5	P	30 - 160
EPA 8321B	Carbamazepine-d10	79.0	P	30 - 160
EPA 8321B	Diuron-d6	61.5	P	30 - 160
EPA 8321B	Endothall-d6	97.1	P	40 - 160
EPA 8321B	Endothall-d6	97.1	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	156	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	156	P	40 - 160
EPA 8321B	Ibuprofen-d3	36.7	P	30 - 160
EPA 8321B	Primidone-d5	85.2	P	30 - 160
EPA 8321B	Sucralose-d6	99.9	P	30 - 160
EPA 8321B	Sucralose-d6	99.9	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A102613

Included Lab Sample IDs: 2214255, 2214256, 2214261

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bromide	99.0	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A102650

Included Lab Sample IDs: 2214259, 2214260, 2214263

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.1	99.6	P/P	90 - 110
O-Phosphate-P	98.3	99.1	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A102651

Included Lab Sample IDs: 2214255, 2214256, 2214261

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	100	P/P	95 - 105

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A102660

Included Lab Sample IDs: 2214258

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	102	102	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A102674

Included Lab Sample IDs: 2214275

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	104	106	P/P	60 - 160

Reference Method: SM 2320 B-2011

Run ID: A102688

Included Lab Sample IDs: 2214255, 2214261

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	98.5	102	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A102688

Included Lab Sample IDs: 2214255, 2214256, 2214261

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	100	P/P	90 - 110
Fluoride	100	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A102695

Included Lab Sample IDs: 2214257, 2214262

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
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Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A102695

Included Lab Sample IDs: 2214257, 2214262

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	102	102	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A102703

Included Lab Sample IDs: 2214258

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.9	100	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A102710

Included Lab Sample IDs: 2214275

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	105	99.5	P/P	60 - 160
AMPA	99.0	99.3	P/P	60 - 160
Endothall	103	105	P/P	60 - 160
Glufosinate	96.4	101	P/P	60 - 160
Glyphosate	96.8	106	P/P	60 - 160

Reference Method: SM 5310 B-2011

Run ID: A102717

Included Lab Sample IDs: 2214257, 2214262

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.3	97.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A102753

Included Lab Sample IDs: 2214257, 2214258, 2214262

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	102	102	P/P	90 - 110
Total-P	102	98.0	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A102765

Included Lab Sample IDs: 2214275

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	102	86.6	P/P	50 - 150
Acetaminophen	125	139	P/P	60 - 160
Acetamiprid	113	121	P/P	50 - 150
Afidopyropen	104	108	P/P	50 - 150
Bentazon	123	150	P/P	50 - 160
Benzovindiflupyr	113	115	P/P	50 - 150
Carbamazepine	112	119	P/P	60 - 150
Clothianidin	128	121	P/P	60 - 150
Dinotefuran	116	118	P/P	50 - 150
Diuron	123	128	P/P	60 - 160
Fenuron	109	114	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A102765
Included Lab Sample IDs: 2214275

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluridone	87.3	105	P/P	60 - 160
Hydrocodone	117	113	P/P	60 - 150
Ibuprofen	80.7	74.6	P/P	50 - 160
Imazapyr	105	93.8	P/P	50 - 150
Imidacloprid	113	102	P/P	60 - 150
Linuron	103	117	P/P	60 - 150
Mandestrobin	108	114	P/P	50 - 150
MCPPP	92.7	92.2	P/P	50 - 150
Naproxen	109	145	P/P	50 - 160
Primidone	108	113	P/P	60 - 150
Pyraclostrobin	110	114	P/P	60 - 150
Thiamethoxam	124	112	P/P	50 - 150
Tolfenpyrad	101	94.1	P/P	60 - 150
Triclopyr	95.8	93.5	P/P	50 - 150

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A102784
Included Lab Sample IDs: 2214257, 2214262

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.1	98.8	P/P	90 - 110

Reference Method: SM 2320 B-2011
Run ID: A102789
Included Lab Sample IDs: 2214256

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	92.2	93.0	P/P	90 - 110

Reference Method: SM 5310 B-2011
Run ID: A102792
Included Lab Sample IDs: 2214258

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	99.6	99.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A102804
Included Lab Sample IDs: 2214257, 2214258, 2214262

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	105	96.3	P/P	90 - 110
Kjeldahl Nitrogen	99.0	105	P/P	90 - 110

* Pass/Fail determinations are made for each bracketing calibration verification check.
Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.
Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision SMP	MS
			LCS			
EPA 180.1 Rev. 2.0	Turbidity				2.12	
EPA 300.0 Rev. 2.1	Bromide	98.7	98.7	98.3		0.409
EPA 350.1 Rev. 2.0	Ammonia-N	99.6	97.6	101		3.15
	Ammonia-N	99.2	95.2	98.0		2.27
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	98.4	94.6	100		3.77
	Kjeldahl Nitrogen	99.1	99.2	104		2.68
EPA 353.2 Rev. 2.0	NO2NO3-N	102	101	101		0.0
	NO2NO3-N	99.0	99.0	99.5		0.393
EPA 365.1 Rev. 2.0	Total-P	103	103	101		1.76
	Total-P	102	101	103		2.40
	Total-P	102	100	102		1.43
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.7	100	99.5		0.443
	O-Phosphate-P	99.3	101	102		1.08
EPA 8321B	2,4-D	81.4				0.511
	Acesulfame K	103	114	126		9.58
	Acetaminophen	70.0	72.4	64.6		11.5
	Acetamiprid	78.5	89.0	86.3		3.09
	Afidopyropen	44.7	70.8	66.3		6.70
	AMPA	111	126	132		4.62
	Bentazon	39.2				2.10
	Benzovindiflupyr	68.5	76.6	74.0		3.52
	Carbamazepine	78.0	74.8	69.1		7.84
	Clothianidin	85.6	71.5	68.4		4.46
	Dinotefuran	78.3	75.6	70.4		7.05
	Diuron	64.8	52.2	51.3		1.77
	Endothall	107	114	122		6.37
	Fenuron	90.8	64.0	63.5		0.698
	Fluridone	72.5				8.85
	Glufosinate	92.3	90.6	97.0		6.86
	Glyphosate	97.0	149	144		2.89
	Hydrocodone	84.7	67.8	66.0		2.68
	Ibuprofen	54.2	52.4	46.0		13.0
	Imazapyr	76.0	97.5	99.7		1.52
	Imidacloprid	89.5	122	117		4.07
	Linuron	56.5	58.4	53.3		9.02
	Mandestrobin	69.7	78.7	69.9		11.9
	MCPP	81.0	68.9	65.2		5.46
	Naproxen	43.7	45.5	57.0		22.4
	Primidone	78.6	67.2	66.9		0.433
	Pyraclostrobin	70.0	82.9	75.4		9.57
	Sucralose	105	104	99.5		4.03
	Thiamethoxam	88.2	89.8	88.0		2.05
	Tolfenpyrad	43.9	47.9	44.9		6.35
	Triclopyr	71.7	68.9	67.5		2.05
SM 2320 B-2011	Total Alkalinity	104			4.83	
	Total Alkalinity	97.2			1.16	
SM 4500 F-C-2011	Fluoride	97.3	96.7	97.2		0.474
SM 5310 B-2011	Organic Carbon	96.2	96.8	101		2.43
	Organic Carbon	103	100	100		0.444

Reference Method Descriptions

Method	Description	Associated Samples
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Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2214255, 2214256, 2214261
EPA 300.0 Rev. 2.1	Bromide in aqueous matrices	2214255, 2214256, 2214261
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2214257, 2214258, 2214262
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2214257, 2214258, 2214262
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2214257, 2214258, 2214262
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2214257, 2214258, 2214262
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2214259, 2214260, 2214263
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2214275
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2214275
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2214255, 2214256, 2214261
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2214255, 2214256, 2214261
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2214255, 2214256, 2214261
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2214257, 2214258, 2214262

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	12/17/2020			12/17/2020 15:51	Yen Ta	2214255, 2214256, 2214261
EPA 300.0 Rev. 2.1	12/17/2020			12/18/2020 15:06	Lipi Saha	2214255
	12/17/2020			12/18/2020 15:24	Lipi Saha	2214256
	12/17/2020			12/18/2020 15:42	Lipi Saha	2214261
EPA 350.1 Rev. 2.0	12/17/2020			12/21/2020 17:17	Ping Hua	2214258
	12/17/2020			12/27/2020 14:59	Ping Hua	2214257
	12/17/2020			12/27/2020 15:00	Ping Hua	2214262
EPA 351.2 Rev. 2.0	12/17/2020	12/23/2020 15:00	David Boose	12/28/2020 17:50	Julia Storbeck	2214257
	12/17/2020	12/23/2020 15:00	David Boose	12/28/2020 17:52	Julia Storbeck	2214262
	12/17/2020	12/23/2020 15:00	David Boose	12/28/2020 18:20	Julia Storbeck	2214258
EPA 353.2 Rev. 2.0	12/17/2020			12/18/2020 10:20	Beverly Y. Sanders	2214258
	12/17/2020			12/21/2020 09:18	Beverly Y. Sanders	2214262
	12/17/2020			12/21/2020 09:24	Beverly Y. Sanders	2214257
EPA 365.1 Rev. 2.0	12/17/2020	12/21/2020 12:50	Yen Ta	12/23/2020 11:23	Shengyu Wang	2214262
	12/17/2020	12/21/2020 12:50	Yen Ta	12/23/2020 11:37	Shengyu Wang	2214258
	12/17/2020	12/21/2020 12:50	Yen Ta	12/23/2020 11:45	Shengyu Wang	2214257
EPA 365.1 Rev. 2.0 dissolved	12/17/2020			12/17/2020 15:08	Blanca Fach	2214259
	12/17/2020			12/17/2020 15:09	Blanca Fach	2214263
	12/17/2020			12/17/2020 15:33	Blanca Fach	2214260
EPA 8321B	12/17/2020	12/17/2020 16:15	Rebecca Ware	12/17/2020 18:43	Rebecca Ware	2214275
	12/17/2020	12/17/2020 16:15	Rebecca Ware	12/19/2020 03:53	Rebecca Ware	2214275
	12/17/2020	12/21/2020 12:00	Hoor Shaik	12/23/2020 03:27	Juyoung Kim	2214275
SM 2320 B-2011	12/17/2020			12/18/2020 22:29	Dale L. Simmons	2214261
	12/17/2020			12/19/2020 00:54	Dale L. Simmons	2214255
	12/17/2020			12/23/2020 16:26	Dale L. Simmons	2214256
SM 2540 D-2011	12/17/2020			12/22/2020 13:52	Yijie Li	2214255, 2214256, 2214261
SM 4500 F-C-2011	12/17/2020			12/18/2020 22:29	Dale L. Simmons	2214261
	12/17/2020			12/19/2020 00:54	Dale L. Simmons	2214255
	12/17/2020			12/19/2020 01:50	Dale L. Simmons	2214256
SM 5310 B-2011	12/17/2020			12/21/2020 21:24	Madeline Gruver	2214257
	12/17/2020			12/21/2020 21:38	Madeline Gruver	2214262
	12/17/2020			12/24/2020 05:19	Madeline Gruver	2214258